

THE CAROLINA CHEMIST

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EDITORIAL COMMITTEE

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EDITORIALS

The reception accorded the first number of THE CAROLINA CHEMIST has indeed been gratifying and encouraging. The letters that have come from alumni and others who have received copies are deeply appreciated. They bring the feeling that the efforts expended have been well directed. As much as these letters are appreciated however, letters of suggestion and criticism will be even more valued. Every alumnus should feel himself an editor and therefore not only at liberty but in duty bound to criticise and suggest. It is hoped that many such letters will be received.

A perusal of the article on the library which appears in this issue, makes quite evident the fact that we have an unusually good collection of chemical literature in the laboratory. It is very unlikely that such an opportunity for becoming acquainted with chemical literature will be at our disposal after leaving the University. Every Carolina man has heard again and again "use the library" and has, realizing the utter impossibility of reading all it contains, perhaps wondered just what was meant. The mere fact of knowing that so much chemical work has been done and is being done is in itself worth while. It impresses the need of constant study and therefore stimulates work. Knowing how to use the library, which means knowing how to look up information you may desire, gives a freedom impossible to have with only the facts capable of being stored in one human mind. It gives an independence of the personal direction of a superior which,

when one is out of reach of that superior, becomes a self-confidence and independence which is invaluable. Cultivate the habit of dropping into the library and picking up the books and journals there. Familiarize yourself with the important books of reference and the leading journals. You will be surprised at the amount of knowledge that will become readily available to you and how quickly you will put it to work. Cultivate the library habit. It is better than a course.

"The department." You hear it almost every day. Have you ever stopped to think what it is? And when you try to place it you are "up against it" for a minute. It is not the building, there is too much life in it for that. It is not the faculty for there has to be a building and students and besides it is hard to put enough distance between yourself and the faculty to get a perspective. It cannot be the students alone. There must be faculty and building. Then it must be all three. Yes, but there must be something else or the whole thing would be so loose it would rattle. "The department" is made up of the building, the faculty and the students bound closely and cemented tightly by a spirit that permeates the whole. And it is this spirit which makes it "the department." Does the spirit bind you into "the department"? Then you become a student and study. You feel the building is yours and take care of it. You know the faculty wants to help you and you go to them and stand by them. Thus "the department" becomes "our department."

ALUMNI AND THE LIBRARY

Of inestimable value in the study of Chemistry and especially in research problems in Chemistry is a complete working library. While the library of the department is not complete in the sense of possessing all published journals of chemistry, yet it is a most excellent collection, for it is doubtful whether it is excelled at any University in America in respect to the journals. These journals are usually rated of greater value than text-books, for the latter are of temporary value, while journals contain original records of work done. The Department of Chemistry is particularly fortu-

nate in having on deposit many sets of journals belonging to Doctors Herty and Venable, and several belonging to the Elisha Mitchell Scientific Society. The Department of Physics has also on deposit two sets, pending the erection of a building for that department. The library has been endowed under the Cameron Fund and so has a regular income of \$300 per year expended mainly in subscriptions and bindings. A complete set of the American Journal of Science was generously given several years ago by Messrs. Joseph A. Holmes and Joseph Hyde Pratt; and a set of the Journal of Physical Chemistry by Doctor Frank K. Cameron of the U. S. Bureau of Soils.

Knowing the value of a library as a working tool, and knowing the difficulties which our alumni must experience frequently in not having accessible original records of chemical work, the librarian makes to alumni an offer which will extend the use of the library, by placing it at the disposal of alumni in an indirect way. He will look up or will delegate some graduate student to look up references in connection with research or other chemical work. This offer carries only one qualification which will seem reasonable. Reimbursement shall be made to cover the cost of copying by typewriter of long extracts and abstracts. The promise is made that this work will be done promptly, as every research chemist realizes that a reference needed is always needed at once. Inquiries should be addressed to the librarian, Dr. James M. Bell, Box 396, Chapel Hill, N. C.

In order that alumni may know whether references are at Chapel Hill, there is appended a list of journals with the volume numbers and dates. Besides these journals reference is frequently made to the hand books, summarizing certain portions of the subject of Chemistry. Those available at Chapel Hill are also listed below. There are in the University Library numerous other sets on general science, and some of these contain chemical articles, all of which are available. Such journals have also been listed and are given in a separate table. Space does not permit the inclusion of the transactions and proceedings of many scientific academies, such as New York, St. Louis, Washington, St. Petersburg, Amsterdam, Berlin and others.

In every case where the year is given as 1914 it is to be under-

stood that the journal is still coming to the library regularly, so that the current numbers may also be consulted by you by proxy.

LIST OF JOURNALS IN CHEMISTRY LIBRARY

	<i>Volumes</i>	<i>Years</i>
American Chemical Journal	1-50	1879-1914
American Chemist	2-7	1871-1877
(Lacks Vol. 2, Nos. 2-4, 6-8, 11, 12; Vol. 3, Nos. 10, 12; Vol. 4, Nos. 1, 4, 10-12; Vol. 5, Nos. 1-5; Vol. 6, Nos. 6, 7.)		
American Journal of Science (Silliman).....	(1) 1-48	1818-1845
	(2) 1-50	1846-1870
	(3) 1-50	1871-1895
	(4) 1-38	1896-1914
Anales de la Sociedad Quimica Argentina.....	1-2	1913-1914
(Lacks Vol. 2, Nos 1-5.)		
Annalen der Chemie (Liebig)	147-406	1868-1914
Annalen der Physik und Chemie (Wiedemann)...	1-69	1877-1899
(Drude).....		
	1-43	1900-1914
Annales de Chimie et de Physique	(1) 1-96	1789-1815
	(2) 1-75	1816-1840
	(3) 1-69	1841-1863
	(4) 1-30	1864-1873
	(5) 1-30	1874-1883
	(6) 1-30	1884-1893
	(7) 1-30	1894-1903
	(8) 1-30	1904-1913
Annales de Chimie	(9) 1-2	1914
Archiv der Pharmacie	205-252	1874-1914
Archiv för Kemi, Mineralogi och Geologi	1-5	1903-1914
Beiträge zur chemischen Physiologie und Pathologie	1-5	1902-1904
Berichte der deutschen chemischen Gesellschaft..	1-47	1868-1914
Bulletin de la Societe chimique de France.....	(1) 1-5	1858-1863
	(2) 1-50	1864-1888
	(3) 1-36	1889-1906
	(4) 1-16	1907-1914
Bulletins of the Bureau of Chemistry.....	1-166	1883-1913
(Lacks Nos. 2, 6, 8, 9, 11.)		
Bulletins of the Bureau of Mines	1-85	1910-1914
Bulletin of the Bureau of Standards	1-11	1904-1914
Chemical Abstracts	1-8	1907-1914
Chemical Engineer	1-20	1904-1914
Chemical News	2, 3, 45-110	1868
		1882-1914
Chemiker Zeitung	4-38	1880-1914
Chemische Revue über die Fett- und Harz-Industrie	1-21	1894-1914
(Lacks Vol. 7, Nos. 7-12; Vol. 8, No. 2.)		

	<i>Volumes</i>	<i>Years</i>
Chemische Zeitschrift	5-13	1906-1914
Chemisches Zentralblatt	59-85	1888-1914
Comptes rendus de l'Academie des Sciences.....	1-159	1835-1914
Dyestuffs	1-17	1898-1914
(Lacks Vol. 1, Nos. 7, 10, 12; Vol. 4, No. 11.)		
Experiment Station Record	1-31	1889-1914
(Lacks Vol. 2, No. 10.)		
Färberzeitung		1889-1914
Gazzetta chimica italiana	1-44	1871-1914
Jahresbericht über die Fortschritte der Chemie...		1847-1887
Journal of the American Chemical Society	1-36	1879-1914
Journal of Analytical and Applied Chemistry.....	1-9	1887-1893
Journal of the Chemical Society (London)	2-7	1850-1855
	30-106	1876-1914
Proceedings of the Chemical Society.....	1-30	1885-1914
Journal of the Elisha Mitchell Scientific Society..	1-30	1883-1914
Journal of Industrial and Engineering Chemistry..	1-6	1909-1914
Journal of Physical Chemistry.....	1-18	1896-1914
Journal of the Society of Chemical Industry.....	1-33	1882-1914
Journal für praktische Chemie	1-90	1870-1914
Kolloid-Chemische Beihefte	1-6	1909-1914
Kolloid-Zeitschrift	1-15	1906-1914
Electrochemical Industry	1-2	1-12 1903-1914
Electrochemical and Metallurgical Industry....	3-7	
Metallurgical and Chemical Engineering.....	8-12	
(Lacks Vol. 1, No. 4.)		
Mineral Industry	1-22	1892-1913
Monatshefte für Chemie	1-35	1880-1914
Moniteur Scientifique	(1) 1-5	1857-1863
	(2) 1-7	1864-1870
	(3) 1-16	1871-1886
	(4) 1-24	1887-1910
	(5) 1-4	1911-1914
Recueil des travaux chimiques des Pays-Bas.....	1-33	1882-1914
Sammlung chemischer und chemisch-technischer Vorträge	1-21	1896-1914
Science	1-40	1895-1914
Technisch-chemisches Jahrbuch	4-18	1881-1896
Transactions of the American Electrochemical Soc.	1-25	1902-1914
Zeitschrift für analytische Chemie	19-53	1880-1914
Zeitschrift für angewandte Chemie	1-27	1887-1914
Zeitschrift für anorganische Chemie	1-88	1892-1914
Zeitschrift für Elektrochemie	1-20	1894-1914
Zeitschrift für physikalische Chemie	1-88	1887-1914
Zeitschrift für den physikalischen und chemischen Unterricht	1-27	1887-1914

LIST OF REFERENCE BOOKS IN CHEMISTRY LIBRARY

- Lexikon der Kohlenstoffverbindungen (Richter).
 Anorganische Chemie (Dammer).
 Organische Chemie (Beilstein).
 Tabellen (Landolt-Börnstein-Meyerhoffer).
 Watt's Dictionary of Chemistry, (Morley-Muir).
 Dictionary of Applied Chemistry (Thorpe) 1912-1913.
 Handbuch der anorganischen Chemie (Gmelin-Kraut-Friedheim) 1907-1915.
 Handbuch der anorganischen Chemie (Abegg-Auerbach) 1908-1913.

LIST OF JOURNALS CONTAINING CHEMICAL ARTICLES IN THE
UNIVERSITY LIBRARY

	<i>Volumes</i>	<i>Years</i>
Annals of Philosophy	4-28	1814-1826
Journal of Biological Chemistry	1-19	1906-1914
Journal of the Franklin Institute	14-29	1834-1841
	123-178	1887-1914
Journal of Science and the Arts	1-22	1816-1827
Nature	1-92	1869-1914
Philosophical Magazine	(1) 1-63	1798-1824
	(5) 15-16	1883
	25-50	1888-1900
	(6) 5-8	1903-1904
	15-26	1908-1913
Philosophical Transactions of the Royal Society of London (Abridged)	1-18	1665-1800
Regular series		1801-1822
Physical Review	(1) 1-35	1893-1912
	(2) 1-4	1913-1914
Physikalische Zeitschrift	1-12	1899-1911
Popular Science Monthly	1-84	1872-1914
Proceedings of the American Academy of Arts and Sciences	1-48	1846-1913
Proceedings of the American Association for the Advancement of Science	1-61	1848-1910
Proceedings of the Royal Society of Edinburgh...	15-30	1887-1910
Proceedings of the Royal Society of London	43-89	1888-1914
Proceedings and Transactions of the Royal Society of Canada	(1) 1-12	1882-1894
	(2) 1-12	1895-1906
	(3) 1-7	1907-1913
Publications of the Carnegie Institution of Wash...	1-188	1902-1913
Smithsonian Contributions to Knowledge	1-35	1848-1907
Smithsonian Miscellaneous Collections	1-58	1862-1910
Transactions of the Royal Irish Academy	7-31	1800-1901
Zeitschrift für physiologische Chemie	69-91	1910-1914

JOURNAL CLUB NOTES

The effect of the European war is felt very much in getting up Journal Club programs, the quantity of foreign literature having fallen off very perceptibly. Nevertheless the bi-weekly meetings of the Club continue with the usual interest. Some of the subjects recently discussed have been "Feldspar as a Possible Source of American Potash," "The Search for an Alkali Metal of Higher Atomic Weight than Caesium," "A Study of the Resin, *Picea Vulgaris*," "The Dyestuff Situation and Its Lessons."

On the evening of April 20, the Journal Club will entertain Dr. W. Lash Miller, Professor of Physical Chemistry at the University of Toronto. Dr. Miller visits the University as the delegate of the American Chemical Society at the inauguration of President Graham.

DEPARTMENTAL NOTES

In the catalogue for 1914-1915 which is just out, the double system of numbering courses has been adopted. Odd numbers apply to fall term courses and even numbers to spring term courses. Thus, what is now Chemistry 1 becomes Chemistry 1-2. The courses in a division of a subject bear numbers in sequence through ten. For instance, courses in qualitative analysis run from 31 to 40 and courses in physical chemistry from 81 to 90. This system of numbering has the advantage of being both logical and elastic.

A large attendance from among the members of the department is expected at the Spring Meeting of the N. C. Section of the American Chemical Society to be held at Raleigh April 19 and 20. Dr. W. Lash Miller of the University of Toronto will speak before the Section on the evening of the 19th.

Three large cases of chemicals arrived on March 13. These cases are supposed to have left Germany about August 1 and nothing is known as to their travels in the meantime. It is rather remarkable that only one bottle in the entire lot was broken.

Dr. Wheeler is planning to build up in the laboratory a Pure Food Exhibit. This exhibit is to be made up of food in the original packages with full analyses attached.

On the night of January 21, Dr. Herty addressed the Chemistry Club of Princeton University on "The Application of Laboratory Research Methods to a Forest Problem."

Dr. Herty spoke at Guilford College on the night of March 20 on "Cotton, Chemistry and the European War."

As Exchange Professor from the University, Dr. Venable lectured at the University of South Carolina February 8-13. On the night of the 8th he spoke on the general subject "The Duty of a University as to Research." His remaining lectures were before the faculties and students of the departments of physics and chemistry and dealt with the subject "Radio-activity and the Radio-active Substances." Of these lectures President Currell writes as follows:

"Dr. Venable did admirable work with us, both in his technical scientific lectures and in his popular lecture on 'University-Research.' . . . His popular address was one of the very finest I have ever listened to. . . . If we can get his consent to its publications in one of our bulletins, I shall be very glad to give it wide circulation, because I regard it as exceedingly uplifting and inspiring."

Dr. Venable spoke before the Elisha Mitchell Scientific Society on March 9 on "Radio-Activity and the Periodic System."

The Annual Spring Meeting of the American Chemical Society was held in New Orleans March 31-April 3. Dr. Herty attended the meeting as president of the Society.

RECENT PUBLICATIONS FROM THE DEPARTMENT

C. H. Herty and C. W. Williard, "Effect of Resene on the Lathering of Soap Solutions," Jour. Ind. Eng. Chem., 6, 895.

C. H. Herty and H. L. Cox, "Stability of Resin Acids at Slightly Elevated Temperatures," Jour. Ind. Eng. Chem. 6, 782.

C. H. Herty and J. O. Graham, "Isoprene from Commercial Turpentine," Jour. Ind. Eng. Chem. 6, 803.

Richard Willstätter and A. S. Wheeler, "Ueber die Isomerie der Hydrojuglone," Berichte, 47, 2796.

F. P. Venable, "Recent Conceptions of the Atom," Journal of the Elisha Mitchell Scientific Society, 30, 117.

PUBLICATIONS RECEIVED

From W. B. Phillips, Director of the Bureau of Economic Geology and Technology, Austin, Texas:

"Fuel Oil in the Southwest."

"Investigation of Sources of Potash in Texas."

"The Fuels Used in Texas."

From J. J. Skinner, Bureau of Soils, Washington, D. C.:

"Effect of Salicylic Aldehyde on Plants in Soil and Solution Cultures."

"Field Test with a Toxic Soil Constituent: Vanillin."

THE DEPARTMENT IN THE NEWSPAPERS

The letter of Dr. Herty replying to a letter from President Harrison of the Southern Railway, both letters being published in the *Charlotte Observer* of January third, and Dr. Herty's recent election to the presidency of the American Chemical Society have directed the attention of the press of the state to the department.

The Tar Heel of January 14 contains the following:

"*The Charlotte Observer* of last Sunday contained a large picture of Dr. Herty, and an account of three columns detailing his life and achievements. The article describes the Herty Turpentine Cup which was invented by Dr. Herty several years ago, and which effects a saving of thirteen million dollars a year to the South in the turpentine industry. Quotations were given from *The World's Work* and *The Scientific American* concerning the value of this invention."

On January 14 there appeared in the *Charlotte Observer* the following editorial:

"*The Observer* has given prominence lately to the results being obtained by the University of North Carolina through its chemical laboratory researches and experiments. It has also had something to say about the success of the Corn Products Refining Company in the utilization of the by-products of corn. The University chemist is responsible for the results being obtained by the people who are engaged in handling the manufactures of corn. The chemist has enabled one large producing company to utilize

a new "shortening" material, a vegetable stearin, said to be better than lard. It was the chemist who found that the cotton seed makes better lard than the hog. But it is in another way that the chemist is also making himself useful to the trade and to the consumers, and that is in protecting them from frauds. The success in developing food products through the aid of chemistry and bacteriology has naturally given opportunities for the fakir. The Northwestern Miller enumerates a number of instances, one being the result of a chemical analysis of a substance bearing a name shrewdly calculated to arouse the interest of any baker. The Miller says it seems that this "baker's panacea" had been advertised and exploited in the trade papers, the local right to its use having been sold in many cities throughout the country at from \$3,000 to \$5,000. What do you suppose this wonderful substance was? A certain starch, gelatinized. Intrinsically, it was worth about two cents a pound. The idea of preserving moistness in bread by the use of gelatinized starch is as old as any one feature of bread-making. So, it appears, the chemist is both a developer and a protector. Doctor Herty and his able corps at Chapel Hill are doing a work which naturally brings the University to the attention of the scientific manufacturing industries all over the country, and that is bringing some well-deserved fame to the North Carolina institution, as well as furnishing the experts to go out into the world and maintain this fame.

ALUMNI NOTES

H. B. Battle, '81, Ph. D., '87, is head of the Battle Laboratories of Montgomery, Ala.

J. R. Harris, '89, is chief chemist for the Tennessee Coal and Iron Co. at Birmingham, Ala.

Hubert Hill, '07, M. S. '08, is doing research work for the West Virginia Experiment Station and teaching in the University of West Virginia, at Morgantown, West Virginia.

C. B. Hoke, '13, is teacher of Physics and Chemistry in the Winston-Salem High School, Winston-Salem, N. C.

Charles Baskerville, '92, Ph. D. '94, is head of the Department of Chemistry of the College of the City of New York.

W. A. Whitaker, '04, is professor of metallurgy at the University of Kansas.

R. O. E. Davis, '01, Ph. D. '03, is physical chemist in the Bureau of Soils at Washington, D. C.

J. O. Graham, M. S. '13, is professor of chemistry at Cumberland University, Lebanon, Tenn.

Strowd Jordan, '04, Ph. D. '09, is chief chemist for the American Tobacco Co., 60-62 Franklin St., Brooklyn, N. Y.

J. B. Thorpe, '03, is chief chemist for the Indiana Steel Co., at Gary, Ind.

L. E. Stacy, '12, M. A. '13, is chemist for the Smoot Tannery at North Wilkesboro, N. C.

A. L. Feild, '11, is junior physical chemist, Division of Fuels, Bureau of Mines, Pittsburgh, Pa. Feild has recently been working on the fusibility of coal and the clinkering of coal.

RECENT PROGRESS IN CHEMISTRY

(According to Chemistry 1)

Gypsum is a sea-weed.

An alum is C. T. S. which stands for cream of tartar substitute.

Boiler scale is the same thing as asbestos.

Carbon hydroxide is reduced by heat to furious iron.

Bichloride of mercury is an antidote for albumen.

Calomel changes to bichloride of mercury when allowed to set in the sun which is a violent poison.

Chlorine, bromine and iodine may be prepared from their immediate relatives.

